**In the Claims:**

Please cancel claims 20-32, 33-37, and 41-47. Please amend claim 1. The claims are as follows:

1. (Currently amended) A switching inverter, comprising:

a first primary winding connected in series to a first switch and a DC voltage source;

a second primary winding connected in series to a second switch and the DC voltage source;

wherein the first primary winding and the second primary winding include ribbon-like conductors each having a thickness RIBBONTHICKNESS;

wherein a first coil segment of the first primary winding and a second coil segment of the second primary winding are wound coaxially around a transformer core;

wherein the first primary winding and the second primary winding are approximately parallel separated by a dielectric layer, and the distance between the cross-sectional centroid of the first primary winding and the cross-sectional centroid of the second primary winding is not greater than 2xRIBBONTHICKNESS, and wherein each of the ribbon-like conductors has an aspect ratio of at least 100.

2. (Original) The inverter of claim 1, wherein RIBBONTHICKNESS is not greater than one half of one millimeter.

3. (Original) The inverter of claim 2, wherein each of the ribbon-like conductors has an aspect

ratio of at least 200.

4. (Original) The inverter of claim 3, wherein RIBBONTHICKNESS is less than 0.5 mm.

5. (Original) The inverter of claim 1, wherein each of the ribbon-like conductors has an aspect ratio of at least 300.

6. (Original) The inverter of claim 1, wherein the first switch is a first composite switch and the second switch is a second composite switch, wherein each of the first and second composite switches comprises a plurality of packaged semiconductor switches that are mounted on a printed circuit board and electrically connected to patterned foil conductors in a patterned foil layer of the printed circuit board, wherein the patterned foil layer is at least 1 mm thick.

7. (Original) The inverter of claim 6, wherein the composite switches are able to continuously switch more than 300 amps of current at a switching frequency of at least 10kHz.

8. (Original) The inverter of claim 1, wherein the inverter is adapted to output more than 3,000 watts of filterably pure-sine-wave AC power.

9. (Original) The inverter of claim 1, wherein the inverter is adapted to output more than 5,000 watts of filterably pure-sine-wave AC power.

10. (Original) The inverter of claim 1, wherein the inverter is adapted to output 10,000 watts or more of filterably pure-sine-wave AC power.

11. (Original) The inverter of claim 1, wherein the first switch and the second switch are controlled by sinewave-modulated pulse-width-modulated (PWM) switch-control signals.

12. (Original) The inverter of claim 11, wherein the switching inverter is adapted to operate continuously at a switching frequency higher than the human audible frequency range.

13. (Original) The inverter of claim 12, wherein the inverter is adapted to continuously output at least 5,000 watts of filterably pure-sine-wave AC power.

14. (Original) The inverter of claim 10, wherein the inverter is enclosable within an enclosure having a volume of 2240 cubic inches.

15. (Original) The inverter of claim 10, wherein the inverter has a DC-to-AC power conversion efficiency is equal to or greater than 80 percent.

16. (Original) The inverter of claim 1, wherein the inverter can operate continuously at an AC power density not less than 3.0 Watts per cubic inch.

17. (Original) The inverter of claim 13, wherein the inverter has an AC power density of at least

4.0 Watts per cubic inch.

18. (Original) The inverter of claim 1, wherein the inverter can operate continuously at an AC power density not less than 4.0 Watts per cubic inch.

19. (Original) The inverter of claim 1, wherein the inverter can operate continuously at an AC power density not less than 6.0 Watts per cubic inch.

20-32. (Canceled)

33-37. (Canceled)

38. (Original) An inverter, comprising:

a first primary winding conductor connected in series to a first sinewave-modulated pulse-width-modulated (PWM)-controlled switch and a DC voltage source, the first switch being a first composite switch including a first plurality of semiconductor switches mounted in at least one row on a first portion of printed circuit-board;

a second primary winding conductor connected in series to a second sinewave-modulated PWM-controlled switch and the DC voltage source, the second switch being a second composite switch including a second plurality of semiconductor switches mounted in at least one row on a second portion of a printed circuit-board;

wherein the first primary winding and the second primary winding have a minimized

uncoupled inductance such that more than 100 amperes of current in the primary windings can be switched perpetually at frequencies greater than 2,000 Hz by the PWM-controlled switches.

39. (Original) The inverter of claim 38, further comprising a fluid-cooled linear heat sink in thermally conductive contact with the first plurality of semiconductor switches, the heat sink having a flat side abutted to a flat side of each semiconductor switch of the first plurality of semiconductor switches.

40. (Original) The inverter of claim 38, wherein the semiconductor switches of the first plurality of semiconductor switches are mounted in two parallel rows on the first portion of printed circuit-board, and wherein the linear heat sink is in thermally conductive contact with the semiconductor switches of the first plurality of semiconductor switches in both of the two parallel rows.

41-47. (Canceled)